Remarks

Specification

The objection to claim 9 is considered to be overcome by the attached amended claim 9 which now depends from claim 8. Entry of amended claim 9 and removal of the objection is respectfully requested.

The specification is objected to as failing to provide sufficient antecedent basis for the claimed subject matter. Specifically, the Examiner suggests claims 2-4 and claims 7-9 recite that movement distances are minimized by means of a mathematical model, while the specification teaches the optimum arrangement is determined by a computer or electronic program, neither of which is the same as a mathematical model. However, Applicants point out that paragraph [0009] of the specification states the shortest movement distances for the transport devices can be achieved by means of mathematical models, and gives specific examples of the types of mathematical models that can be used, such as graph theory or network planning. Further, paragraphs [0013] and [0014] emphasize that throughput optimization must be *calculated.* While calculations can be performed by an electronic data processing program executed on a computer, the essence of minimization of movement of a transport device lies in calculation which is necessarily based upon a mathematical model (as further supported by paragraph [0009]). Applicants therefore respectfully ask that the objection to the specification be removed accordingly.

Claim Rejections under 35 U.S.C. § 112, Second Paragraph

Claims 2-10 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter to which applicant regards as the invention. The rejection is respectfully traversed as it applies to Claims 2-9, and is overcome as it applies to Claim 10 by re-presenting Claim 10 in independent form.

Claims 2-9 each set forth a further limitation of the optimizing step of Claim 1. Claim 2 specifies a particular way of minimizing the movement distances of the transport device, namely by means of a mathematical model. Claims 3 and 4 each further limit the optimizing method step by setting forth a particular type of mathematical model employed to minimize the movement distances, and Claims 7-9 further limit the optimizing method step by dictating how the mathematical model is executed. Claim 5 specifies another way of minimizing the movement distances of the transport device, namely by arranging or rearranging the processing stations in a defined sequence. Claim 6 is directed to another approach for carrying out the optimizing step of Claim 1 that involves concurrent processing using multiple processing programs. Thus, Claims 2-9 are proper limitations of the improvement step defined in Claim 1.

The limitation of Claim 10 applies to the preamble of Claim 1, and therefore the rejection has merit with respect to Claim 10. To overcome the rejection, Claim 10 has been re-presented in independent form.

In view of the foregoing, withdrawal of the rejection under 35 USC 112 is respectfully sought.

Claim Rejections under 35 U.S.C. § 103(a)

Claims 1-10 are rejected under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent No. 6,017,495 (Ljungmann). Applicants note the Examiner has excerpted large sections of text from Ljungmann, and concede that Ljungmann discloses an apparatus with a compact arrangement of stations. However, it does not follow that the claimed improvement is obvious in view of Ljungmann.

Claim 1 is directed to an improvement in a method for treating cytological or histological specimens in an automatic stainer or in a tissue processor of a general type where the specimens are delivered by a transport device to various processing stations, inserted there, and treated in accordance with a definable processing program. The improvement is characterized by the step of optimizing throughput "on the basis of minimal *movement distances of said transport device*" (emphasis added). Optimizing throughput on this basis allows the maximum number of transport actions to be performed within the processing times of a processing program. See the present application at paragraphs [0006] and [0008]. The movement distances of the transport device depend not only on the physical proximity of the processing stations, but also on which specimen carrier must be placed in which open processing station at a particular time. The more programs being run, the more variables there are and the greater the complexity. The situation is analogous to a chef making several different recipes in a kitchen having many different ovens, mixing stations, chopping stations, etc. It is helpful for increasing throughput if the ovens, mixing stations, and chopping stations are placed physically close together, but this is not the only factor. The chef must know which item to move to which station in the most efficient manner, given the time constraints associated with each station.

At the bottom of page 6 of the Office Action, it is stated that "Ljungmann does not specifically recite that the distances between the processing stations are arranged a minimal distances apart nor that the distances are minimized by a mathematical model." Applicants respectfully point out that this statement mischaracterizes the claimed invention. It is not the distances between processing stations that is minimized, it is **the movement distances of the transport device** that is minimized as a basis for optimization of throughput. The movement distances depend not only on the physical distance between processing stations, but also on which carrier is moved to which processing station in keeping with one or more predetermined programs. Thus, while it is appreciated that Ljungmann provides a compact apparatus with close together processing stations, this is not the invention.

Not specified by the claim

This difference is illustrated in paragraph [0011] of the present application where it is made clear the transport device is handled independently of the object carriers so that after an object carrier has been inserted into a treatment station, the transport device can continue to operate during the treatment, which enables the object carrier to grasp and move other object carriers and deliver them into other processing stations while other processing steps are

underway for different objects. In this way, concurrent processing or treatment in various processing stations in accordance with multiple processing programs is possible, specifically in throughput-optimized fashion, which is not taught by Ljungmann. Applicants further point out that while the device of Ljungmann may be able to carry out multiple staining programs via a microprocessor, there is no teaching in Ljungmann to suggest a program designed to calculate minimal movements of a transport device. not recited in claims

For the above reasons, Claims 1-10 are respectfully thought to be patentable over Ljungmann.

Conclusion

In view of the foregoing, favorable reconsideration of Claims 1-10 and removal of the stated rejection is respectfully sought. If the Examiner has any questions, or if any information is needed to assist in expediting prosecution of the instant application, the undersigned attorney may be contacted at the number provided below.

Respectfully submitted,

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